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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/658,969	09/09/2003	Michal Hlavac	INGEENI-1	4000

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EXAMINER

HAJNIK, DANIEL F

ART UNIT	PAPER NUMBER
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2628

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/08/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/658,969	Applicant(s) HLAVAC ET AL.	
	Examiner Daniel F. Hajnik	Art Unit 2628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 March 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/11/2006 has been entered.

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-10 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 1-10 apply a computer program as part of a seemingly patentable system, however, these claims in reality seek patent protection for the computer program as evidenced by page 15, lines 1-21 in the specification. For example, the specification states on page 15, lines 5-7, "The present invention comprises a novel software platform for authoring and deployment of interactive characters", states on page 15, lines 11-12, "The core AI functionality is the heart of a complex software system" and states on page 15, lines 13-21, "The full system consist of:" where the listed items in lines 13-21 shows the system consists of software. In other words, the claims appear to be directed to software, data structures, and/or programs, and not actual

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hardware components. A computer program per se is neither computer components nor statutory process. Thus, these claims are non-statutory.

Additionally, since claims 1-8 include a 101 judicial exception (i.e. a computer program, computer algorithm, or data structure), these claims must be for a practical application of the judicial exception. As is, these claims fail to recite either a physical transformation or the producing of a useful and tangible result (i.e. displaying on a monitor). Thus, these claims are also non-statutory for this reason.

To expedite a complete examination of the instant application, the claimed rejected under 35 U.S.C. 101 as non-statutory subject matter are further rejected as set forth below in anticipation of applicant amending the claims to place them within the four categories of invention.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-10 are rejected under 35 U.S.C. 102(e) as being anticipated by Fogel et al. (US Patent 7,025,675 B2).

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As per claim 1, Fogel teaches the claimed:

1. A system (*col 3, lines 23-24, "a video game system 100"*) comprising a virtual world, comprising:

a virtual environment (*col 2, lines 22-24, "end users can interact with the virtual and perpetual gaming world in a remote manner"*);

a plurality of virtual elements within said virtual environment, each of said virtual elements being capable of interacting with other of said virtual elements within the virtual environment (*col 8, lines 24-26, "Perpetual universe server 202 may also track the movement of all dynamic objects, digenomes, and avatars in the perpetual universe", col 8, line 16, "digenomes competitions" and col 8, line 67 – col 9, line 1, "to support battles between digenomes" where battles can include interacting*);

user controls for enabling a user to interact with at least one of said virtual elements within said virtual environment (*col 8, lines 48-50, "the end users can view and interact with the gaming environment in the context of their online persona and/or in the context of their digenomes" which involves user controls*);

wherein at least one of said virtual elements comprises a virtual character comprising a behavior state, an emotion state and a learning state, and wherein said behavior state (*col 2, lines 3-5, "evolutionary computation techniques in connection with the behavior and capabilities of the game character"*), said emotion state (*col 2, line 8, "emotional characteristics"*) and said

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learning state (*col 2, line 8, "cognitive characteristics" and col 2, lines 10-12, "The digenetics of a game character can also influence levels of expertise, training, and physical and mental prowess"*) are capable of changing (*col 9, lines 24-26, "Rather, the gaming environment 208 and/or the game characters are preferably designed to evolve and change"*) in response to (i) interaction with other virtual elements within the virtual environment (*col 13, lines 62-65, "During competition and training decisions, actions, movements, and responses of a digenome are preferably dictated by current game conditions, game parameters, and its traits, its current state of physical, emotional, cognitive, and performance development, and other factors"*), and/or (ii) commands from said user input controls (*col 3, lines 32-34, "a game character supported by system 100, whether user-controlled or computer-controlled"*);

wherein said virtual environment is configured so that additional virtual characters can be introduced into said virtual environment (*col 8, lines 14-15, "digenomes character birth, breeding, and gene therapy 214"*);

wherein the additional virtual characters comprise a behavior state, an emotion state and a learning state, and wherein the behavior state (*col 2, lines 3-5, "evolutionary computation techniques in connection with the behavior and capabilities of the game character"*), emotion state (*col 2, line 8, "emotional characteristics"*) and learning state (*col 2, line 8, "cognitive characteristics"*) of the additional virtual characters are capable of changing (*col 9, lines 24-26, "Rather, the gaming environment 208 and/or the game characters are preferably designed to evolve and change"*) in response to (i) interaction with other virtual elements within the virtual

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environment (*col 13, lines 62-65 "During competition and training decisions, actions, movements, and responses of a digenome are preferably dictated by current game conditions"*), and/or (ii) commands from said user input controls (*col 3, lines 32-34, "a game character supported by system 100, whether user-controlled or computer-controlled"*);

and further wherein the additional virtual characters are capable of being recognized by the virtual character previously existing within the virtual environment, with the additional virtual characters being capable of interacting with one another and the virtual character (*col 14, lines 30-33, "end users looking to create offspring digenomes ... This feature can simulate end user interest in the long-term role-playing aspect of the video game system" where this long-term role playing can include "digenomes competitions" and col 8, line 67 – col 9, line 1, "to support battles between digenomes" which involve interaction between characters new or old*).

As per claim 2, the reasons and rationale for the rejection of claim 1 is incorporated herein.

Fogel teaches the claimed:

wherein the behavior state (*col 2, line 4, "behavior and capabilities"*) is determined as a function of a plurality of different factors (*col 13, lines 62-65, "During competition and training decisions, actions, movements, and responses of a digenome are preferably dictated by current game conditions, game parameters, and its traits, its current state of physical, emotional, cognitive, and performance development, and other factors"*);

wherein the learning state (*col 14, line 3, "learning"*) incorporates a reinforcement learning mechanism (*col 14, lines 3-4, "Training, learning, and positive experiences may*

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increase the performance level”) which alters the relative weighting (*col 22, line 28, “current weighting factors”*) of the plurality of different factors used in determining the behavior state (*col 13, lines 62-65*);

As per claim 3, the reasons and rationale for the rejection of claim 1 is incorporated herein.

Fogel teaches the claimed:

3. A system according to claim 2 wherein said virtual character further comprises a sensory capability for sensing other virtual elements within said virtual environment (*col 10, lines 24, “model for the genetic structure of a digenomes character 300” and col 10, lines 40-41, “which may affect its decision making process; its visual acuity”*).

As per claim 4, the reasons and rationale for the rejection of claim 1 is incorporated herein.

Fogel teaches the claimed:

4. A system according to claim 3 wherein said sensory capability is configured to sense the presence of other virtual elements within said virtual environment (*col 10, lines 40-41, “which may affect its decision making process; its visual acuity”, col 8, line 16, “digenomes competitions” and col 8, line 67 – col 9, line 1, “to support battles between digenomes”*).

As per claim 5, the reasons and rationale for the rejection of claim 1 is incorporated herein.

Fogel teaches the claimed:

5. A system according to claim 3 wherein said sensory capability is configured to sense the motion of other virtual elements within said virtual environment (*col 22, lines 37-40, “Solomon*

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engine 206 is capable of processing and determining each individual move, decision, action, reaction, and response of the digenomes” where this information can be communicated to the sensory capability of a given virtual character).

As per claim 6, the reasons and rationale for the rejection of claim 1 is incorporated herein.

Fogel teaches the claimed:

6. A system according to claim 4 wherein said sensory capability is configured to sense a characteristic of other virtual elements within said virtual environment (*col 21, line 21, “Competition process 700 may also retrieve game data” and col 21, lines 40-42, “the presence and characteristics of building and other obstructions; and data related to dynamic objects included in the game environment”*).

As per claim 7, the reasons and rationale for the rejection of claims 1 and 2 are incorporated herein.

As per claim 8, the reasons and rationale for the rejection of claim 1 is incorporated herein.

Fogel teaches the claimed:

and further wherein each virtual character comprises a blackboard data structure which permits other virtual characters to access a subset of that virtual character's behavior state, emotion state and learning state, whereby to enhance the level of interaction between the characters (*col 12, line 66 – col 13, line 4, “The digenetic structure for digenome character 300 may be extended indefinitely to incorporate any number of hierarchical levels, digenetic*

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relationships, and/or digenetic elements. As used herein, a 'digenetic element' is any unit, quantity, value, or parameter that affects or prescribes the characteristics of a digenome").

As per claim 9, the reasons and rationale for the rejection of claim 1 is incorporated herein.

Fogel teaches the claimed:

wherein the virtual world further comprises an audio-visual component (*col 23, line 3, "animation data" and col 23, line 5, "sound effects"*) for displaying audio and visual manifestations of the virtual world to the user (*col 7, lines 11-14, "Viewer 122 may project the end user's avatar into the gaming environment as the end user moves about and watches events as they occur"*);

wherein the audio-visual component comprises an animation engine (*col 22, lines 50-53, "Simulation engine 204 ... to generate an animation script file"*) for driving the animated display (*col 6, line 52, "create animation graphics"*) of the virtual world and an audio engine for driving audio output for the virtual world (*col 23, lines 2-3, "currently displayed environment" and col 23, line 5, "sound effects"*);

and further wherein the audio-visual component is configured such that the audio engine may drive the animation engine (*col 7, lines 2-3, "three-dimensional graphics drivers, three-dimensional sound drivers" where the can be interaction between the graphics and sound such that the two components are synchronized*).

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As per claim 10, the reasons and rationale for the rejection of claim 1 is incorporated herein in regards to the claimed “virtual character comprising a behavior state, an emotional state and a learning state”. Fogel teaches the claimed:

10. The system in wherein the audio-visual component comprises at least one camera for determining a selected view of the virtual world, and further wherein the camera comprises a virtual character comprising a behavior state, an emotion state and a learning state, and wherein said behavior state, said emotion state and said learning state of the camera are capable of changing in response to (i) interaction with other virtual elements within the virtual environment, and/or (ii) commands from said user input controls (*col 7, lines 20-21, “viewer 122 may support various “camera” angles and perspectives” and col 7, lines 11-14, “Viewer 122 may project the end user’s avatar into the gaming environment as the end user moves and watches events as they occur”*).

Response to Arguments

1. Applicant argues that the amendments are sufficient to over the 101 rejections (towards middle of page 9 of remarks). The examiner maintains that the statutory requirements of the claims have not yet been fulfilled in relation to computer software and programs. Please refer to the 101 rejections are above for the specific reasons for maintaining the rejections.
2. Applicant's remaining arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel F. Hajnik whose telephone number is (571) 272-7642. The examiner can normally be reached on Mon-Fri (8:30A-5:00P).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ulka J. Chauhan can be reached on (571) 272-7782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

D.F.H. 3/5/07

DFH


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